



Association of American
State Geologists



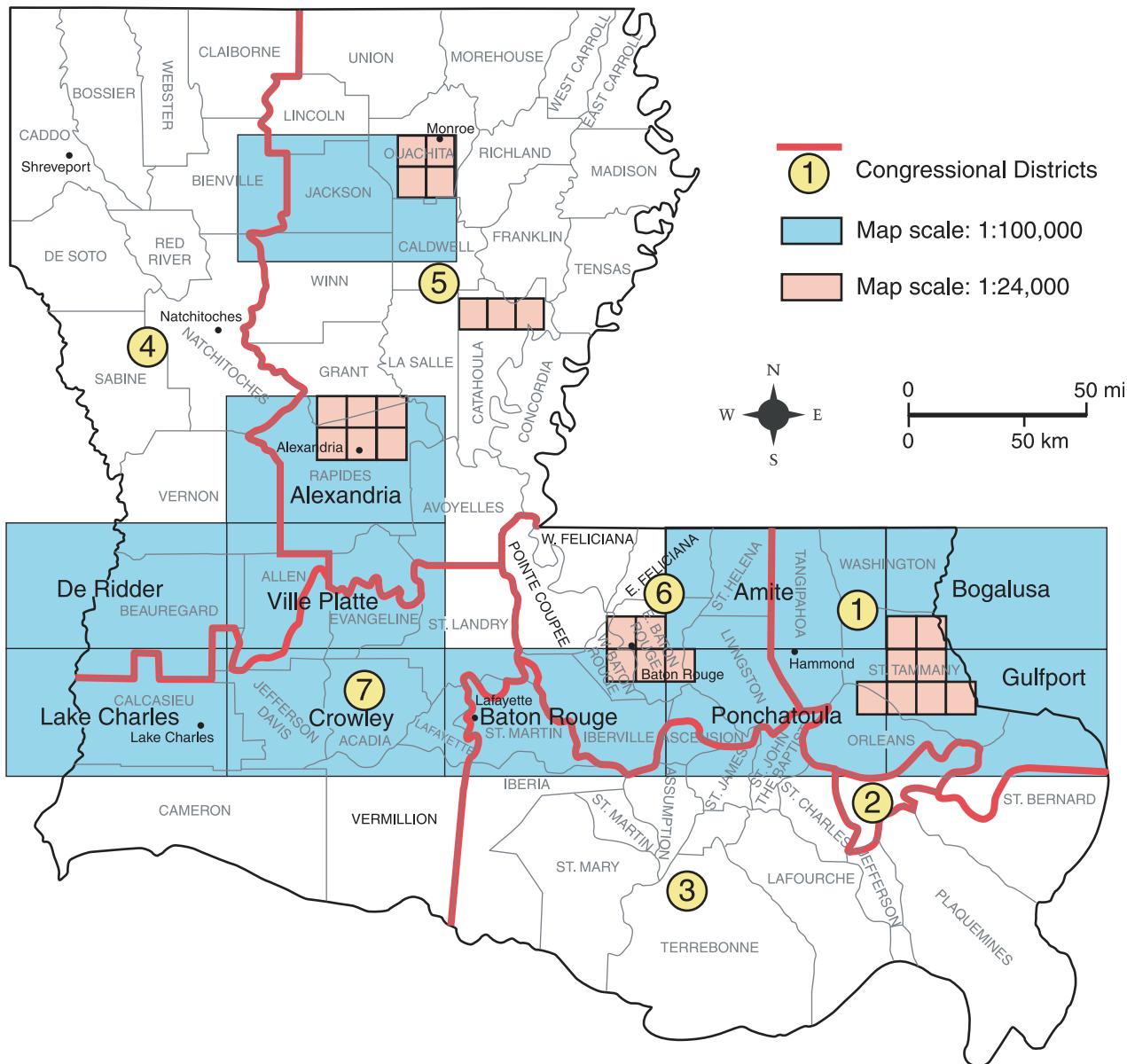
United States
Geological Survey



National Cooperative Geologic Mapping Program

STATEMAP Component: States compete for federal matching funds for geologic mapping

LOUISIANA



STATEMAP Quadrangles 1993 - Present

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National Cooperative Geologic Mapping Program

LOUISIANA

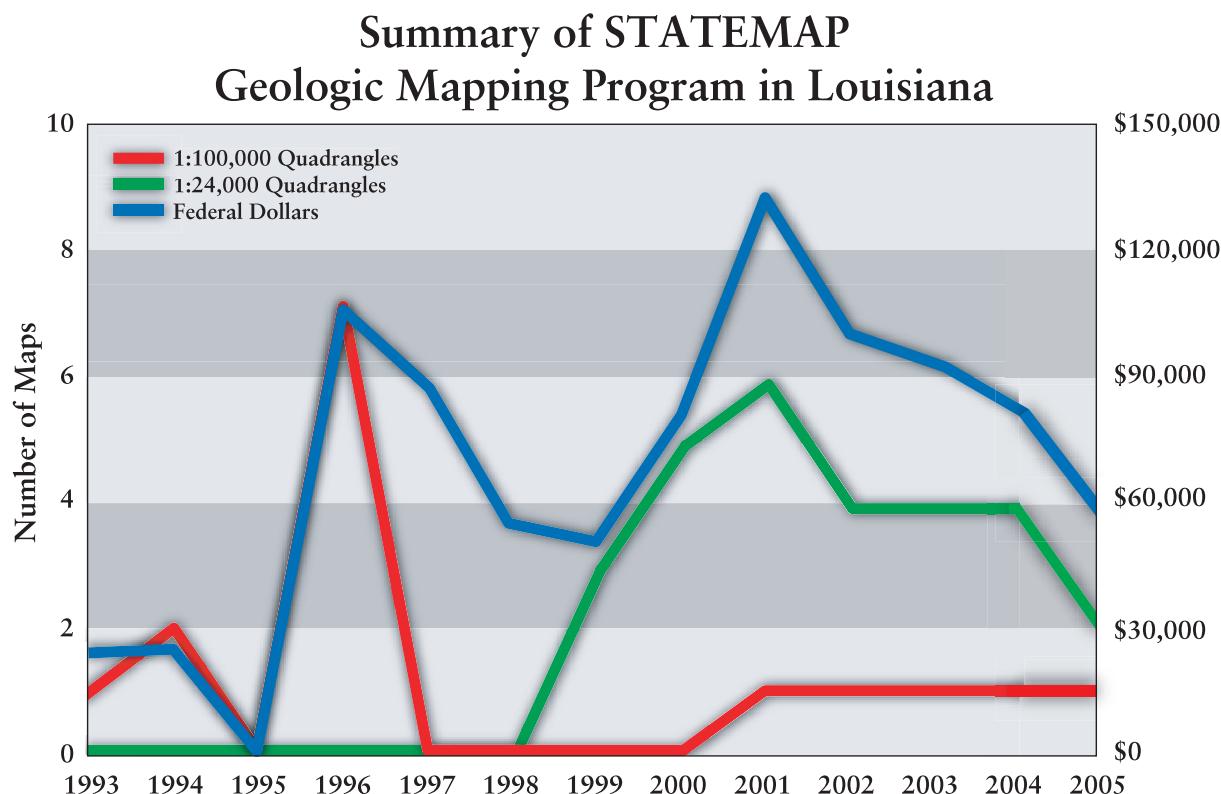
Cooperative agreements between the USGS and LGS under the STATEMAP program have driven the bulk of the geologic mapping conducted in the state since the program's inception. STATEMAP projects have permitted LGS to complete initial compilation of new, intermediate-scale coverage of the state's upland landscapes and alluvial bottoms above the coastal zone, and to follow this with a program of large-scale mapping of selected 7.5-minute quadrangles. The NCGMP-supported geologic mapping in Louisiana has a multitude of uses of importance to many timely issues. The mapping generates basic geologic data that in urbanized and rapidly urbanizing areas are essential to planners, and in more rural settings are essential to ongoing maintenance and preservation efforts in wildlife-management areas and national forests.

The availability of up-to-date geologic maps has myriad economic implications in Louisiana as in other areas. Geologic maps are invaluable in the effort to rationally plan the permitting of activities in the coastal zone in ways that minimize the threat of land loss. They are also essential to the proper siting of waste-treatment facilities relative to the recharge zones of aquifers that are important sources of drinking water (such as for the surface unit corresponding to the outcrop of the uppermost portion of the Chicot aquifer, which is the principal source of ground water for 13 parishes in southwestern Louisiana and historically has been a favored setting for the siting of solid-waste repositories). Increasingly detailed renderings of active, but apparently non-earthquake-producing, surface faults of the south Louisiana coastal plain on new geologic maps provide a framework for assessment of fault-related damage potential and damage-reduction strategies.

One specific example of a favorable economic outcome effected by the availability of a current geologic map in Louisiana involved a consulting petroleum engineering and geology firm in Baton Rouge in the southeastern part of the state. The firm was working on a project involving shallow groundwater contamination from surface impoundments and leaky injection wells in an oil and gas field 25 miles south-southwest of Baton Rouge, and was faced with limited and/or unavailable well log information at shallow depths. The surface boundaries between Mississippi River natural-levee, distributary, and backswamp deposits rendered on the 1:100,000-scale geologic quadrangle map* encompassing the area made it possible to infer a plausible projected interpretation of the shallow-subsurface geology. A letter from the firm stated, “[t]he information from the map, and the understanding of the surface and shallow subsurface geology that it afforded, were critical to the work being performed . . .”

There can be little doubt that basic geologic information of the kind presented on geologic maps will figure prominently in the addressing of a host of environmental issues of increasing importance in the state in years to come.

*Heinrich, P. V., and Autin, W. J. (compilers), 2000, Baton Rouge 30 x 60 Minute Geologic Quadrangle: Louisiana Geological Survey, Baton Rouge, Scale 1:100,000.



Louisiana quadrangles geologically mapped with support of STATEMAP component of National Cooperative Geological Mapping Program (NCGMP).

The graph of LGS geologic mapping activities conducted as part of the NCGMP shows the importance of the program to geologic mapping efforts in Louisiana. To date, LGS has published seven of the 1:100,000-scale geologic quadrangles as cartographic products for sale to the public.